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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER TOSCANO, ALICIA	
			ART UNIT	PAPER NUMBER
			1796	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/563,022	<b>Applicant(s)</b> EDELMANN ET AL.	
	<b>Examiner</b> Alicia M. Toscano	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Examiner Toscano has taken over this case from Examiner Collins. Applicant has overcome the 102(b) or 103(a) prior art rejection over Chapman by amendment, however in updating the search the Examiner found new references pertinent to the instant claims. The allowability of claims 10-20 is withdrawn and new rejections are set forth over these claims. As such the rejection is made non-final.

#### ***Specification***

1. An abstract was provided on 12/29/09, overcoming the objection over the specification.

#### ***Claim Objections***

2. Objection over claim 13 is overcome by amendment.
3. Claim 16 is objected to because of the following informalities: the term "the liquid" should be changed to "the formulation" or a similar correction to put the claims properly commensurate with each other. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

#### ***Claim Rejections - 35 USC § 101***

4. Rejection over 35 USC 101 and 35 USC 112, second paragraph, is overcome by amendment.

***Priority***

5. Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d), a certified English translation of the foreign application must be submitted in reply to this action. 37 CFR 41.154(b) and 41.202(e).

Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

6. Rejections over Mehnert (US 6830816, US 2003/0008974), Burger (US 6695904, US 2003/0041779) and Edelmann (US 6699586, US 20020197457) set forth below currently fall under 102(b). When translation of the foreign priority is received these rejections will fall under 102(a) and 102(e).

***Claim Rejections - 35 USC § 102 or 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-14, 16-23 rejected under 35 U.S.C. 102(b) as being anticipated by Mehnert (US 2003/0008974, equivalent to US 6830816).

Claim 1 and Column 9 line 18, Column 6 line 46 of '974 meet the composition requirements of instant claims 1, 4, 5, 7, 8 and 9. Column 10 line 47 of '974 further meets the requirements of instant claims 2 and 3, claim 12 of '974 meets the requirements of instant claim 6, claim 21 of '974 meets the requirements of instant

Art Unit: 1796

claims 10-14, The Examples of '816 further meet the process requirements of claims 16-18 and elements of claims 20-22 are met by elements set forth above.

8. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Burger (US 2003/0041779 or US 6695904).

Claim 8 of '904 meets the claims limitations of instant claims 1, 2, 3, 7, 8, 9, claim 9 of '904 meets the limitations of instant claims 4 and 5, claim 13 of '904 meets the requirements of instant claim 6, Ex 1 of '904 meets the requirements of instant claims 10, 16-18, claim 14 of '904 meets the limitations of instant claim 15 and instant claims 11-14, 19-23 are met by elements set forth above.

9. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Edelmann (US 20020197457 or US 6699586).

Claims 4, 8 and 11 of '586 meet the requirements of instant claims 1, 4, 5, 8, elements of claim 9 are deemed inherent since the composition requirements are met, claim 14 of '586 meets the requirements of instant claim 2, claim 13 of '586 meets the requirements of instant claim 3, claim 2 of '586 meets the requirements of instant claims 6 and 7, claim 18 of '586 meets the requirements of instant claim 10, claims 11-14 and 20-23 are met by elements set forth above, Column 11 line 52 meets the requirements of instant claims 15 and 19, Ex 1 further meets the limitations of claims 16-18.

***Claim Rejections - 35 USC § 102 or 103***

10. Claims 1-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takarada (US 5021091).

Takarada discloses hard coating compositions. Said coating compositions comprise an organic silicon compound and inorganic particles. The silicon compound is of the formula (1) in Column 2 line 33 and includes various alkyltrimethoxysilanes (Column 2 line 60-Column 3 line 14), meeting the organoalkoxysilane requirements of claims 1 and 4, since oligomers of such monomers are inherently present in a composition unless very tedious separation is performed and water is highly controlled, the monomers also meet the requirements of the organoalkoxysilanes of claims 1 and 5. 5-200 parts by weight of inorganic particles powder (component B of Takarada), based on particle solids, is blended per 100 parts by weight of silane (Column 4 lines 30-35), 5:100 particle:silane equals a 20:1 silane:particle ratio, whereas 200:100 particle:silane equals a 0.5:1 silane:particle ratio, meeting the ratio requirements of claim 1. The formulation of Example 1 has 763 grams of formulation and 100 grams of solid particles therein, or 13% particles (100/783), as further required by claim 1. Though the viscosity is not disclosed, since the composition requirements above are met the viscosity property is deemed inherent in the composition. If there is any difference between the product of the reference and the product of the instant claims the difference would have been minor and obvious. "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and

Art Unit: 1796

its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. See MPEP 2112.01(I) , *In re Best*, 562 F2d at 1255, 195 USPQ at 433, *Titanium Metals Corp v Banner*, 778 F2d 775, 227 USPQ 773 (Fed Cir 1985), *In re Ludtke*, 441 F2d 660, 169 USPQ 563 (CCPA 1971) and *Northam Warren Corp v D F Newfield Co*, 7 F Supp 773, 22 USPQ 313 (EDNY 1934).

Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 USC 102 and 103. "There is nothing inconsistent in concurrent rejections for obviousness under 35 USC 103 and for anticipation under 35 USC 102." See MPEP 2112(III) and *In re Best*, 562 F2d at 1255, 195 USPQ at 433.

As such all the requirements of claims 1, 4, 5 are met by the above. It is unclear what is encompassed by "wetting assistant" of the claims, however Takarada discloses additional solvents (Column 3 lines 20-30), additional reactive components which inherently have polar properties (Column 3 lines 30-39) and other surface active agents (Column 5 line 20), all meeting the wetting assistant requirement of claim 2. Addition of solvent is as set forth above, as required by claim 3, the particle size ranges from 1 to 200 millimicrons (Column 3 line 47), meeting the requirements of claim 6, the particles may be silica and the like (Column 3 line 45), as required by claim 7, the composition is reacted (see Ex 1), as required by claim 8, and since the composition requirements of claim 1 are met, the solids content of claim 9 is deemed inherent in the composition.

Art Unit: 1796

See Applicant's Examples, when using a silane to particle composition within the range taught by Takarada one inherently results in the solids content of claim 9. Takarada anticipates a ratio of 20:1 to 0.5:1 silane:powder, as set forth above, as such the same solids content must be produced therein.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 10-13, 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takarada in view of Hardman (US 4329273).

Takarada includes elements as set forth above. Takarada discloses that the silane may be native or partially hydrolyzed by way of water and acid (Column 3 line 18, Ex 1 lines 22-24). Takarada does not disclose how much water to add per mole silane.



Hardman discloses silane compositions comprising the partial hydrolysis product of an alkoxy silane. Hardman further discloses in great detail in Columns 7 and 8 how to form the partial hydrolyzate. Hardman discloses that anywhere from 0.5 to 1.5 moles of water may be used per mole of alkoxysilane (Column 7 lines 67-68), Hardman further discloses that the acid used in combination may be hydrochloric (the same used in the Example of Takarada) or acetic acid (a species of acid disclosed by Takarada in Column 5 line 31) and may be added in an amount ranging from 10-500 ppm (Column 8 lines 25-30).

Since these amounts are taught to be known in the art to be suitable to form the partial hydrolyzate desired by Takarada, a prima facie case of obviousness exists to use them. See *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945), wherein the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination.

Takarada meets the composition requirements of claim 10 but discloses hydrolyzing the silane prior to adding the particles (Examples). A prima facie case of obviousness exists to mix and hydrolyze the composition in any order. See *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.).

As such all the elements of claim 10 are met by elements set forth above. Since the composition and method requirements are met the viscosity requirements are

Art Unit: 1796

deemed intrinsically met by the combination. Elements above in Takarada meet the requirements of claims 11, 12, 13, 14, 15. A temperature for dispersing is 20C (Ex 1), as required by claim 16, Ex 1 shows dispersing for 16 hours, which includes "a time" of 10 to 60 minutes, as required by claim 17, since the amount of acid is met the pH is deemed inherent, further, the table of Column 7 discloses pH's within the range of claim 19, the end composition meets the requirements of claim 20, the composition is applied to substrates, meeting the method requirements of claim 21, since the composition requirements are met the application of claim 21 is deemed met (since there are no further structural or composition elements required the Examiner finds it to inherently be scratch resistant, a release layer and the like), likewise, the product of claim 22 is deemed inherently met and the composition of claim 23 is deemed inherently met.

Regarding claim 18: Ex 1 discloses adding the silane, hydrolyzing for 30 minutes, adding particles and "aging" 16 hours. Takarada does not disclose the method of claim 18. It is the Examiner's position that this aging step is merely hydrolyzation of the silane, wherein some reaction between the silica particle surface and silane would be present (i.e. a self-assembled monolayer would inherently form thereon). See Hardman, Column 8 lines 31-35. Depending on temperature, amount of water and the amount of acid the time for hydrolysatation varies. Use of acid catalyst decreases the reaction time, and increasing temperature decreases the reaction time (and vice versa). Takarada is performing this step at 20C.

It would have been obvious to one of ordinary skill in the art at the time of the invention to increase the temperature and/or to vary the acid/water/temperature, as

Art Unit: 1796

taught by Hardman, to decrease the time of the aging reaction, meeting the requirements of the claim.

12. Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehnert (US 20030008974 or US 6830816) in view of Hardman (US 4329273).

Column 14 line 8 and Examples of '974 discloses the acids of claims 15, however the ppm of the acids is not disclosed.

'273 includes elements as set forth above and discloses the known use of 10-500 ppm acid in a similar hydrolysis reaction. A prima facie case of obviousness exists to use that taught by '273 since it is known to be suitable for the intended use. See *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945), wherein the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination. As such the limitations of claim 15 are deemed met and since the amount of acid is met the pH is deemed inherent, as required by claim 19.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

Art Unit: 1796

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 12, 21 of U.S. Patent No. 6830816 in view of US 4329273. Claim 1 and Column 9 line 18, Column 6 line 46 of '816 meet the composition requirements of instant claims 1, 4, 5, 7, 8 and 9. Those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970). Column 10 line 47 of '816 further meets the requirements of instant claims 2 and 3, claim 12 of '816 meets the requirements of instant claim 6, claim 21 of '816 meets the requirements of instant claims 10-14, Column 14 line 8 and Examples discloses the acids of claims 15, however the ppm of the acids is not disclosed.

'273 includes elements as set forth above and discloses the known use of 10-500 ppm acid in a similar hydrolysis reaction. A prima facie case of obviousness exists to use that taught by '273 since it is known to be suitable for the intended use. See *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945), wherein the selection of a known material based on its suitability for its intended use

Art Unit: 1796

supported a prima facie obviousness determination. As such the limitations of claim 15 are deemed met and since the amount of acid is met the pH is deemed inherent, as required by claim 19. The Examples of '816 further meet the process requirements of claims 16-18 and elements of claims 20-23 are met by elements set forth above.

14. Claims 1-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8, 9, 13, 14 of U.S. Patent No. 6695904. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 8 of '904 meets the claims limitations of instant claims 1, 2, 3, 7, 8, 9, claim 9 of '904 meets the limitations of instant claims 4 and 5, claim 13 of '904 meets the requirements of instant claim 6, Ex 1 of '904 meets the requirements of instant claims 10, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970).16-18, claim 14 of '904 meets the limitations of instant claim 15 and instant claims 11-14, 19-23 are met by elements set forth above.

15. Claims 1-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4, 8, 11, 14, 13, 2, 18 of U.S. Patent No. 6699586. Although the conflicting claims are not identical, they are not patentably distinct from each other because Claims 4, 8 and 11 of '586 meet the requirements of

Art Unit: 1796

instant claims 1, 4, 5, 8, elements of claim 9 are deemed inherent since the composition requirements are met, claim 14 of '586 meets the requirements of instant claim 2, claim 13 of '586 meets the requirements of instant claim 3, claim 2 of '586 meets the requirements of instant claims 6 and 7, claim 18 of '586 meets the requirements of instant claim 10, claims 11-14 and 20-23 are met by elements set forth above, Column 11 line 52 meets the requirements of instant claims 15 and 19, Ex 1 further meets the limitations of claims 16-18. Those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970).

16. Claims 1-23 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 26, 33, 27, 53, 34 of copending Application No. 11258025. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 26, page 9 line 30, page 18 line 14 and page 18 line 28 of '025 meet the requirements of instant claims 1, 4, 7 and 8, claim 33 of '025 meets the requirements of instant claim 2, page 20 line 21-23 meets the requirements of instant claim 3, claim 27 of '025 meets the requirements of instant claim 6, claim 53 of '025 meets the requirements of instant claim 10, claim 34 of '025 meets the requirements of instant claim 16, Ex 1-3 meet the requirements of instant claims 17 and 18, Ex 1 discloses the use of 100ppm acid, as

Art Unit: 1796

required by instant claims 15 and 19, claims 11-14, 20-23 are met by elements set forth above. Those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Toscano whose telephone number is (571)272-2451. The examiner can normally be reached on M-F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMT

/RANDY GULAKOWSKI/  
Supervisory Patent Examiner, Art Unit 1796